

GRADUATE AG RESEARCH SPOTLIGHT



Jing Huang

"Accurately collecting plant vasculature is very challenging. We are establishing plantains as a model species to study vasculature-specific physiology and responses due to the ease of vascular tissue collection in this plant."

—Jing Huang, PhD student, Department of Agronomy

THE STUDENT: Jing Huang's career path was influenced by where she grew up—the eastern coastal province of Shandong, China's largest agricultural exporter. Huang's small town was surrounded by farmland rich in varied crops, including cotton, maize and wheat. Given the setting, she recognized early on what she wanted to study. "I know agriculture is very important and the basis for development of the society," she says. "I'm interested in how to improve the productivity of crops." She majored in horticulture at Shandong Agricultural University before earning a master's degree, also in horticulture, at China Agricultural University in Beijing. A colleague in her master's program had studied in the U.S. and encouraged Huang to consider doctoral programs abroad. Huang knew Purdue Agriculture by reputation. "When I wanted to find a PhD position, this is the place I really wanted to come," she says. Based on conversations with Cankui Zhang, assistant professor of crop molecular physiology, and her strong interest in his research, she came to Purdue in August 2015 to join his lab. Zhang's guidance, she adds, has been key to her progress and improving her critical thinking skills. Her move to West Lafayette proved an easy transition. "I don't like living in big, crowded cities," she says. "I like peaceful places, and this community is really friendly."

THE RESEARCH: Huang's work in plant molecular physiology focuses on plant vasculature, particularly phloem, which she compares to blood vessels in

animals and humans. She collects vasculature tissue from plantains grown in hydroponic systems in the greenhouse and analyzes how molecular and physiological pathways in the vasculature respond to low mineral stress. By establishing plantains as a model, Huang's work could lead to strategies that specifically manipulate phloem for improved abiotic stress resistance in crops such as soybean and corn.

OPPORTUNITIES: Huang is a three-year teaching assistant for a plant physiological and biotechnological techniques lab course. Attending international conferences has been important to her growth as a researcher, she says: "By interacting with scientists from different places in the world, I gained a lot of eye-opening knowledge." Her labmates, Purdue-sponsored seminars and invited speakers also prompt her to think about her own research in new ways.

FUTURE PLANS: Huang expects to complete her PhD by the end of next year and seek a postdoc in plant molecular physiology at a U.S. institution. "Even as an undergraduate, the aim of my career was to find a faculty position in a university," she says, and preferably one with a strong research component. Outside of the lab, she enjoys spending time with her husband, playing badminton and ping pong, and walking and discovering "beautiful places" near her home, on campus and through local parks. She also likes to cook, Chinese dumplings being her specialty.